

What is claimed is:

- 1 1. An apparatus for use in a well, comprising:
2 a slickline having a fiber optic line therein.
- 1 2. The apparatus of claim 1, wherein the slickline comprises a bore through which the fiber
2 optic line extends.
- 1 3. The apparatus of claim 2, further comprising another fiber optic line that extends through
2 the bore of the slickline.
- 1 4. The apparatus of claim 1, further comprising longitudinally-extending support structures
2 to add strength to the slickline.
- 1 5. The apparatus of claim 4, wherein the longitudinally-extending support structures include
2 support fibers.
- 1 6. The apparatus of claim 1, further comprising a tool attached to the slickline.
- 1 7. The apparatus of claim 6, wherein the tool comprises a sensor, the apparatus further
2 comprising a modulator to modulate optical signals to represent a well characteristic detected by
3 the sensor.
- 1 8. The apparatus of claim 7, wherein the sensor comprises a casing collar locator.
- 1 9. The apparatus of claim 7, wherein the modulator comprises an obstacle and a reflective
2 device, the obstacle and reflective device movable with respect to each other to modulate the
3 optical signals.

1 10. The apparatus of claim 9, wherein the obstacle and the reflective device have at least two
2 relative positions, the obstacle blocking at least a portion of reflected light from the reflective
3 device in response to the obstacle and the reflective device being at a first relative position, and
4 the obstacle to allow a greater amount of reflected light to pass from the reflective device to the
5 fiber optic line in response to the obstacle and the reflective device being at a second position.

1 11. The apparatus of claim 10, wherein the reflective device comprises a mirror.

1 12. The apparatus of claim 9, wherein the obstacle modulates an amount of reflected light
2 transmitted by the reflective device to the fiber optic line.

1 13. The apparatus of claim 12, wherein the reflective device is adapted to receive transmitted
2 light transmitted by an optical transmitter into the fiber optic line, and to reflect the received light
3 as the reflected light.

1 14. The apparatus of claim 7, wherein the modulator comprises a spinner to modulate the
2 optical signals.

1 15. The apparatus of claim 6, wherein the tool is adapted to receive an actuation command
2 through the fiber optic line.

1 16. The apparatus of claim 1, wherein the slickline is adapted to support a weight of greater
2 than or equal to 500 pounds.

1 17. The apparatus of claim 1, wherein the slickline is a conveyance structure without an
2 electrical conductor to communicate power or data.

1 18. The apparatus of claim 1, wherein the slickline is a conveyance structure that does not
2 communicate power or data separate from the fiber optic line.

1 19. The apparatus of claim 6, wherein the tool comprises an optical transmitter to transmit
2 optical signals over the fiber optic line.

1 20. An apparatus comprising:
2 a conveyance structure for inserting or removing a tool into or out of a wellbore; and
3 a fiber optic line extending through the conveyance structure;
4 the conveyance structure not being used to transmit power or data therethrough separate
5 from the fiber optic line.

1 21. The apparatus of claim 20, wherein the conveyance structure comprises a conveyance
2 tube.

1 22. The apparatus of claim 21, wherein the conveyance tube has a diameter less than about
2 0.5 inch.

1 23. The apparatus of claim 20, wherein the conveyance structure comprises a bore through
2 which the fiber optic line extends.

1 24. The apparatus of claim 20, further comprising another fiber optic line disposed in the
2 conveyance structure.

1 25. The apparatus of claim 20, wherein the conveyance tube is formed of a steel material.

1 26. The apparatus of claim 20, further comprising a modulator to modulate optical signals to
2 represent an event associated with the tool.

1 27. The apparatus of claim 26, wherein the modulator comprises an obstacle and a reflective
2 device, the obstacle and reflective device movable with respect to each other to modulate the
3 optical signals.

1 28. The apparatus of claim 27, wherein the obstacle modulates an amount of reflected light
2 transmitted by the reflective device to the fiber optic line.

1 29. The apparatus of claim 28, wherein the reflective device is adapted to receive transmitted
2 light transmitted by an optical transmitter into the fiber optic line, and to reflect the received light
3 as the reflected light.

1 30. The apparatus of claim 26, wherein the modulator comprises a spinner to modulate the
2 optical signals.

1 31. The apparatus of claim 30, wherein the spinner comprises a blade rotatable at different
2 rates to modulate the optical signals differently.

1 32. A device for a well, comprising:
2 a reflective device; and
3 a modulator to modulate reflected light from the reflective device based on a
4 predetermined condition.

1 33. The device of claim 32, wherein the reflective device is adapted to receive light from a
2 fiber optic line and to reflect light back to the fiber optic line.

1 34. The device of claim 32, wherein the modulator comprises an obstacle, the obstacle and
2 reflective device being movable with respect to each other to determine an amount of light
3 reflected from the reflective device.

1 35. The device of claim 34, wherein the obstacle comprises a magnet movable in response to
2 proximity to a casing collar.

1 36. The device of claim 34, further comprising an actuator to move at least one of the
2 obstacle and mirror in response to the predetermined condition.

1 37. The device of claim 34, further comprising a casing collar locator, the actuator to receive
2 data from the casing collar locator and to move the at least one of the obstacle and mirror based
3 on the received data.

1 38. A well tool system, comprising:
2 a downhole power source in a downhole tool;
3 a fiber optic line extending from the tool to the surface; and
4 a conveyance for running the tool and fiber optic line into the well and retrieving at least
5 a portion of the fiber optic line from the well.